DOCUMENT RESUME

ED 087 761 SP 007 746

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TITLE Early Childhood Education and Competency-Based Teacher Education.
INSTITUTION Connecticut Univ., Storrs. National Leadership Inst. - Teacher Education/Early Childhood.
PUB DATE Jun 73
NOTE 11p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Early Childhood Education; Educational Change; Evaluation Techniques; Individualized Instruction; *Performance Based Teacher Education; Performance Criteria; Systems Approach; Teacher Programs

ABSTRACT

This document considers the relationships between competency-based teacher education (CBTE) and early childhood education (ECE) and examines the implications of these relationships. CBTE is defined as follows: its objective is to specify competencies; it applies systems theory; and it features personalization and individualization, instructional modes and management and evaluation procedures. These components are then viewed from the perspective of ECE and are found to be well in keeping with its ideas (e.g., the stating of goals and objectives in ECE dates back to such pioneers as Froebel and Montessori). It is stated that incorporating the assumptions of ECE and CBTE will result in many major changes in early childhood teacher preparation programs. One of these proposed changes is that students will work with young children throughout the entire program rather than for a few weeks during the student teaching experience. Personnel role changes also, it is stated, will be great to suit the needs of CBTE. The document then reviews some ECE programs that have CBTE implications and cites the Ohio (Toledo) Model (1968) as having been a previous, serious, all-inclusive attempt to wrestle with the problem of educational change. (JA)

National Leadership Institute
Teacher Education/Early Childhood

The University of Connecticut
Technical Paper

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JUNE 1973 STORRS, CONNECTICUT

ED 087761

EARLY CHILDHOOD EDUCATION AND COMPETENCY-BASED TEACHER EDUCATION

DEC 5 1973

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FOREWORD

George Dickson is Dean of the College of Education of the University of Toledo. He is Chairman of the National Leadership Institute's Task Force on Theoretical Models. Gary Cooke is an Assistant Professor of Elementary Education at Toledo. Gilbert Shearron and Nancy Hensel serve as Director and Instructor respectively in the Division of Elementary Education at the University of Georgia. Dr. Dickson led the task force on early childhood education in the recent USOE program for the development of elementary school models.

Competency-Based Teacher Education has attracted much attention in recent years and many training and certification programs are utilizing the concept. The new Child Development Associate program is completely competency-based and most early education training programs utilize at least some elements of CBTE. We can expect an increase in such elements in the future.

Competency-Based Teacher Education (CBTE) has emerged as a feasible alternative to current practices for preparing and certifying teachers at both the preservice and inservice levels. Recently twelve states have either legislated Competency-Based Certification and Teacher Education or provided options within existing program approval criteria for Competency-Based Certification and Competency-Based Teacher Education (sometimes referred to as Performance-Based Teacher Education). In this monograph we consider the relationships between CBTE and Early Childhood Education, and examine the implications of these relationships.

WHAT IS CBTE?*

Competency-Based Teacher Education is an approach to teacher education that is based on performance. Traditional teacher education programs are based on experience.

The experience-based program requires a specified number of courses and credit hours in specific areas of study plus student teaching. The present standards of the national teacher education accrediting agency, the National Council for the Accreditation of Teacher Education, express this concept by recommending: (1) course work in the area of general studies, (2) course work in the content of the teaching specialty, (3) humanistic and behavioral studies, (4) teaching and learning theory with laboratory and clinical experience, and (5) a practicum experience.[1] These recommended elements are classifications of experience in which students are to engage. H. Del Schalock notes that the recommendations do not specify what is to be taken from such experience nor do they indicate what prospective teachers need to know or should be able to perform in order to be qualified to teach.[2] Transcripts of such programs reveal only how many credit hours students have taken in certain classes.

A performance-based program involves the specification of outcomes. This means that the knowledge, skills, attitudes, and teaching competencies that prospective teachers are expected to have upon completion of a teacher education program are specified together with the criteria which provide evidence for the assessment of these outcomes. In other words, the competencies to be acquired by the student and the criteria to be applied in assessing the competencies are made explicit. The student then is accountable for meeting these criteria.

At the completion of a competency-based program, or any specific portion of it, a student would have demonstrated certain knowledge, skills, attitudes and teaching competencies instead of completing courses. A potential employer would be able to evaluate a prospective teacher

*The following account of CBTE is excerpted and developed from Chapter 2 of George E. Dickson and Richard Saxe, *Partners for Educational Reform and Renewal: Competency-Based Teacher Education, Individually Guided Education and Multiunit Schools.* Berkeley, Calif.: McCutchan Publishing Corp., (In press, to be published Fall, 1973).

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on demonstrated performance rather than a transcript of course credit. The performance-based approach provides the foundation on which CBTE is built.

Objectives: Specifying Competencies

Competency-based teacher education requires the use of competency-based criteria for teacher preparation. These criteria, once specified, hold prospective teachers (students) and inservice teachers accountable for their performance. Four types of criteria can be used to determine the necessary competencies: knowledge, performance, affective, and product. Knowledge criteria are used to determine a teacher's cognitive understandings. Performance criteria are employed to assess his teaching behaviors. Affective criteria are used to assess how he feels and what he values. Product criteria are used to assess a teacher's ability by examining growth of the pupils he has taught.

The specification of competencies can be done in several ways. One approach is by carefully defining what types of growth should take place in the child. Once this is done assumptions can be made as to what competencies a teacher should have in order to promote desired growth in children. A second approach is to do a task analysis of what teachers actually do with children in learning environments. When the tasks of the teacher are defined, these tasks become the competencies. A third way of specifying competencies is to make assumptions based upon research and opinion as to what teaching is. These assumptions become teaching competencies. Perhaps a combination of the three approaches offers a better way of specifying competencies than the use of a single route.

Application of Systems Theory

Systems theory is fundamental to the development of a competency-based teacher education curriculum. The use of systems in teacher education indicates a concentration on process. A major idea in the systems approach is to begin with the broadest statement of the problem (system) and then use systems analysis procedures to determine and define the systems' parts and their functions as well as the interrelationship between those functions.

A teacher education system has as its *purpose* the development of teachers who have certain knowledge, skills, and attitudes which promote children's learning. Its *processes* are the readings, discussions, activities, etc. which provide the necessary knowledge, skills, and attitudes. Its *components* are the instructional and managerial elements (involving courses, schedules, learning modules, time factors) necessary to organize and operate the instructional process designed to achieve the program's purposes. And the *products* of a teacher education system are the teachers who graduate from it. Success is determined by the degree to which graduates have achieved the system's objectives in terms of the specified knowledge, skills, and attitudes. Evaluation ascertains the degree to which this occurs. Information obtained from such evaluation is constantly fed back into the system to make needed changes in the purposes or components of the entire program. As corrections are made, the entire cycle is repeated. The total process is ongoing and regenerative.

When teacher education is conceived in terms of a system: (1) the role of the teacher must be designed (and his education developed) in the context of various related educational roles (such as team leaders and regular teachers in team teaching situations, educational technologists, teacher aides, supervisory and administrative personnel, etc.); (2) the role of the teacher must be considered in relationship to all of the elements of the learning environment (such as classrooms and their equipment, books, theories of teaching, etc.); (3) the distinction between preservice and inservice training is eliminated as teaching is more and more viewed as a continuing, developmental process; and (4) the education of teachers becomes goal-oriented based on the development of competencies required to facilitate pupil learning.

The systems approach forces a comprehensive consideration of teacher education—its goals, its processes, its components, and subsystems, and their interrelationships. The basic concepts and rationale for a systems approach are neither new nor mystical. An analytical, logical process is employed which approximates scientific thinking. A different way of approaching the designing and developing of a teacher education program is required, but the process is not difficult to apply. What is required is a full understanding of the system of "teacher education" and its relationship to the broader system of "education" of which it is a subsystem.

Personalization and Individualization

If programs are to be both humanistic and relevant for students they must be personalized. The concept of "personalization" requires a variety of strategies which individualize and make more personal the learning-teaching process. The word "personalization" has a meaning beyond the term individualization. Individualization generally refers to the providing of educational opportunities for students to engage in learning activities at their own rates, sometimes independently, sometimes with others. Individualization has many instructional forms. Some of these tend to be abstract and may lack the quality of humanness. Personalization of instruction, on the other hand, is the attempt to particularize instruction by being more concerned with the diverse interests, achievements and activities of each learner.

Each student's program will vary to some extent on the basis of his interest, specialization, background of knowledge, skills, and personal learning style. Personalization also requires a continuing relationship between the college faculty, students and other involved persons throughout the program's development and operation.

The student is expected to interact continuously with the instructional staff, whether they be college faculty or school personnel. Such interaction should result in definition and negotiation of the competencies to be developed by the student, the context in which such competencies will be demonstrated, and the criteria by which they will be judged. The concept of personalization assumes that not all

students are alike and recognizes their individual differences. Consequently, the basic objective is to provide a program of teacher education which will achieve broad competence for prospective teachers but which, at the same time, singles out and promotes teacher individuality. The utilization of faculty, cooperating teachers and other types of instructional personnel is also guided by the concepts of personalization and individualization. Competency-based teacher education attempts to prepare prospective teachers who will provide a personalized and individualized learning environment for children. Thus it is only reasonable that a teacher education program should reflect a similar learning environment.

Instructional Modes

The instructional program in CBTE can be characterized as performance-based and field centered. In the acquisition of knowledge, skills, attitudes and teaching competencies, an instructional effort should take into account the idea of personalization and the opportunity for students to practice and demonstrate teaching competencies in situations with children. One of the ways of organizing instruction is by modules. An instructional module is defined as a set of learning activities intended to facilitate the student's achievement of a specified objective or set of objectives. A module usually consists of the following elements: (1) a specified objective or set of objectives stated in precise terms derived from specified competencies; (2) pre-assessment designed to evaluate the student's level of achievement relative to the objective or objectives prior to any instructional experiences; (3) a series of instructional activities designed to help the student meet the objective or objectives; and (4) a posttest designed to assess the student's level of mastery relative to the objective or objectives.

The field centered orientation mandated by CBTE makes it necessary to place students in situations where they work directly with children to practice and to demonstrate teaching competencies. An example of a teaching competence to be practiced and demonstrated would be for the teacher to structure a variety of learning activities designed to increase the child's vocabulary. It is only in "real" situations with "real" children that the effectiveness of the teacher can be determined.

Students in a CBTE program are assessed at several points by different means. For example, the competencies listed below dictate the appropriate type of assessment to be employed.

Competencies to be Assessed	Type Assessment
1. Knowledge of Method and Content.	Paper and Pencil
2. Demonstration in peer and simulated teaching.	Observation
3. Demonstration with children in structured situations.	Observation
4. Demonstration with children in unstructured situations.	Observation

Management and Evaluation Procedures

Current efforts in teacher education suffer from a lack of systematic evaluation. It is one thing to plan a course of training for teachers, but is quite another to determine how future teachers will behave once they are responsible for their own teaching. Regretfully, present teacher education programs have not required the collection, sorting and frequent retrieval of large amounts of data for evaluative purposes. Competency-based teacher education focuses unusual attention on evaluation. If such programs are to realize their objectives, it is essential that modern technology be employed in their management and evaluation.

Competency-based teacher education viewed as a complex system requires a program management subsystem for its successful operation. With this requirement is a concurrent need for systematic program evaluation to determine the validity of CBTE assumptions and to provide data for the continuous decision-making necessary for CBTE development. The evaluation requires: (1) a clear determination of objectives, (2) careful planning of means to accomplish the objectives, and (3) ongoing revision and improvement of the chosen means. Ideally, a CBTE program can be evaluated at any time and becomes, in effect, self correcting. Evaluation essentially becomes a decision-making process. From such efforts come the refinement of present activities or the generation of new tasks.

Our discussion to this point has been intended to present the fundamental components of CBTE programs. We turn now to a similar overview of basic assumptions of early childhood education (ECE) followed by a consideration of some current activities in ECE. The same general topics will be considered for ease in developing possible relationships between CBTE and ECE.

EARLY CHILDHOOD EDUCATION

Traditional and experimental early childhood education programs currently use many of the essential elements contained in competency-based teacher education. Programs for young children have made public statements concerning program rationale and objectives. Assumptions which seem common to early childhood programs and competency-based teacher education can be inferred from these statements. Such elements as stating goals and objectives, providing various instructional modes, enhancing the self-concept, meeting the learner's needs, providing for the management and evaluation of the program, and viewing all elements and their relationships in the program can be identified as major concerns in both CBTE and ECE programs.

Table 1 indicates these similar assumptions in CBTE and ECE and their relation to specific CBTE components. Our purpose is to identify aspects of CBTE which are frequently found and practiced in early childhood programs.

Table 1
SIMILAR ASSUMPTIONS OF CBTE AND ECE

ASSUMPTIONS: CBTE[3]	ASSUMPTIONS: ECE[4]	CBTE COMPONENTS
"A teacher education program should have as its base or foundation detailed descriptions of the behaviors or competencies essential to effective training, and preservice and inservice teachers should be guided toward acquiring mastery of them."	Early childhood programs have stated goals for pupil learning behavior.	GOALS AND OBJECTIVES
"A teacher education program should provide for differences among teachers both preservice and inservice in the accumulation of experience, extent of achievement, and rate and style of learning."	"Teaching should be adapted to the needs of the individual child."	INSTRUCTIONAL MODES
"A teacher education program should provide for the development of the personal qualities of the individual learner; it should provide opportunities for him to establish his self identity, and help him pursue his personal objectives."	Early childhood programs should provide for the development of the self-concept and social skills.	PERSONALIZATION
"A teacher education program should provide for the continuous growth and development of the teacher both preservice and inservice from the earliest entry point into the program through the highest level of specialization."	"Education must begin at the level of the children's abilities."	INDIVIDUALIZATION
"A teacher education program should be so organized that it provides for the continuous evaluation, feedback, and revision of all of its component parts."	Diagnostic examination to assess levels of mastery can provide information for revision of program objectives and methods.	MANAGEMENT AND EVALUATION
"A teacher education program should be so organized and managed that all persons concerned with the education of teachers or affected by it share the responsibility for it."	Early childhood programs involve a variety of support personnel, including nutritionists, health personnel, social workers, housekeeping staff, teachers, paraprofessionals, parents and other community resource people.	SYSTEMS APPROACH

Goals and Objectives

The stating of goals and objectives for early childhood programs is common. The statement of these goals and objectives varies from program to program. Parker[5] points out that objectives vary in explicitness, breadth, and their emphasis on content and process.

Pioneers in early childhood education programs such as Froebel and Montessori had specific outcomes in mind for young children. Froebel developed a series of materials designed to lead the child to active discovery of his world and certain basic truths. The materials had a definite sequence accompanied by explicit directions for their use and learning potential.[6] Montessori developed a program around specific materials with specific objectives. The goal of motor education activities was the development of self-management skills in children. A rather elaborate set of didactic materials was designed to promote sensory discrimination skills, concept development and techniques of observation and decision making.[7]

More recently, such early childhood education programs as the *Tucson Early Education Model*, the *New Nursery School*, the *Early Training Project*, the *Discovery Program*, and the *Bereiter-Engelmann Program* have specified objectives in terms of specific outcomes for young children.

The *Tucson Early Education Model* states objectives in four categories: Language Competence (linguistic labels, concepts, language forms, awareness of function of language); Intellectual Base (skills necessary in the process of learning); Motivational Base (attitudes and behavioral characteristics related to productive social involvement); and Societal Arts and Skills (social interaction, information transmission).[8] The *New Nursery School*, developed by Glen Nimnicht, is guided by objectives in the affective domain and cognitive domain including the development of a positive self-concept, sensory and perceptual acuity, language skills improvement, conceptual development and problem solving abilities.[9] Susan Gray's *Early Training Project* was aimed at developing achievement motivation, persistence, delayed gratification, interest in school-type activities and identification with achieving role models in preschools for disadvantaged children.[10] Bereiter and Engelmann have listed fifteen specific objectives for pre-

school education ranging from being able to distinguish words from pictures to being able to perform certain kinds of if-then deductions.[11] Parker has indicated that the *Discovery Program* is the most complete in specifying behavioral objectives in all areas of child growth and development deemed important.[12]

Other early childhood programs have objectives which are more general in nature. The point remains that CBTE and ECE do share the common practice of specifying outcomes in terms of the learner.

Instructional Modes

It is essential for young children to have first hand experiences in order to learn.[13] Most early childhood programs recognize this fact and plan their curriculum accordingly. Piaget has provided many developmental descriptions of children as they mature. It is important that children be given the opportunity to "act" on their environment. Children are given opportunities to learn about volume through sand and water play with a variety of containers. They learn about colors by mixing paints in different combinations. They learn about occupational and domestic roles through dramatic play. Instruction is taken into the field as children visit the fire station, zoo, dentist's office and other places of interest to the young child.

The learning center is a well known phenomenon in the nursery school. Certain school areas are designated for specific learning activities. There will likely be areas for block play, a doll or dress up corner, a puzzle area, and other interest areas. The *New Nursery School* program also includes a concept-formation area where exhibits, pictures and pertinent books are displayed to emphasize a particular concept.[14] Other early childhood programs such as *Bank Street*[15] and the *Educational Development Center*[16] are designed around learning centers.

CBTE uses similar means for providing learning experiences. The use of modules which are self-instructional, learning centers, field experiences, self-pacing, and individual as well as small group instruction are all elements of CBTE operations. The similarity between CBTE and early childhood programs can easily be drawn from these examples.

Personalization and Individualization

Early childhood programs are personalized and individualized by beginning with the child's needs at his own educational level. There has also been an attempt to tailor programs to the specific needs of various ethnic and regional populations. For example, the *Tucson Early Education Model* was originally designed for Mexican-American children.

Nearly all program descriptions emphasize that the learning environment must be a warm, nurturing place where the child feels secure and at home. Attempts are made to personalize the nursery school in many different ways. In most schools the child has his own locker where he can hang his coat, store special belongings and keep his art work. The locker probably has his name on it and may have his photograph. The walls of a nursery school are decorated with the children's art work to give them a feeling that the school belongs to them. The teacher-child ratio is kept low so that adults may establish a personal relationship with the children. Many nursery school programs provide a variety of activities from which the child may choose and in a sense plan the structure of his day for himself.

With few exceptions, early childhood educators believe that education must begin with the child's level and need and that these levels will be different for different children. Consequently, activities and learning strategies are planned individually for and with each child. Children may work in small groups for some activities, in large groups for others and at times alone.

Early childhood programs can be further personalized by the involvement of parents in the program. Parents may work as volunteers as they do in many Head Start centers or they may participate as advisors in curriculum development. The degree to which parents are involved varies from program to program. In a Montessori program there is very little parent involvement. In the *Ameliorative Program*[17] parents work with their young children at home, in the classroom, teach other parents various teaching competencies and help siblings teach younger siblings. This latter program may be seen as personalizing the young child's learning program in a very meaningful way. It also provides individualization in that it focuses on individual children.

A Systems Approach

The early childhood educator needs to be an expert environmentalist who studies the ecology of the young child's total environment. A systems approach is simply a process which allows the early childhood educator to study all the diverse variables that are interrelated in the child's learning environment and which affect his growth and development. One's task is to identify those elements which affect the young children and decide which of those elements are significantly related to other elements. This allows early childhood personnel to work toward determining what changes in that system would bring about desirable learning for the child.

Examples of how early childhood programs have demonstrated their use of a systems approach are the programs which coordinate several agencies involved with young children. Head Start programs have given attention to the coordinating of health, volunteer, social, and mental health agencies. Educating the "whole" child involves many of these important personnel who can contribute to various aspects of the child's welfare.

Another example of a systems approach in early childhood education is illustrated in an article published in *Educational Leadership*.[18] This article delineates the various components of an early childhood program and raises questions about them in such a way as to help the educator analyze his total program. In this application of systems thinking, the early childhood educator is directed to consider the presence and interrelatedness of program objectives, program procedures, the structuring of the child's activities, administrative and organizational requirements, kinds of personnel needed and the evaluation of the

program. This concern for the elements of the total early childhood program parallels that of teachers for developing the "whole" child. Just as early childhood educators have built programs attending to intellectual, social, physical and emotional needs of young children, they can also apply a systems process to analyze the effectiveness of those programs.

Management and Evaluation

The general purpose of management in early childhood programs is to provide feedback data about the various components of the program. The management function attempts to develop a systematic collection of data about objectives, instructional activities, resource and personnel utilization, and the young child's performance. The evaluation function takes the collected information from the management system and makes judgments regarding the total program. In order to get valid and reliable data about the various elements of the early childhood program, the management system must develop appropriate instruments to collect and organize information about the program.

Evaluation in early childhood education programs takes place at both formal and informal levels. According to one point of view, three purposes of evaluation in early childhood education are to "determine the effectiveness of the program or some of its elements; obtain research data; diagnose behavior and performance of an individual child and set objectives and goals for him."[19] Another purpose of evaluation in early childhood education has been to compare various early childhood programs with others and to satisfy accountability demands made by various supporting agencies. Summative evaluations within individual early childhood programs have been difficult due to a poorly conceptualized mixture of general and specific goals such as "cognitive development" and "language development."[20] In addition to those kinds of problems within programs, the comparative evaluations between programs add new complications, such as comparing programs with dissimiliar objectives.

Many early childhood programs do carry out formal evaluation procedures. The DARCEE early childhood program uses an extensive and systematic standardized testing program for language ability and I.Q.[21] In addition, it utilizes outside evaluators. The results of the evaluation are used for instructional purposes rather than program redirection or modification.

The management and evaluation component is time consuming and very important. Information gathered through a management system can be utilized to make judgments about whether the early childhood educator should continue, stop, or change the activities of his program. Importantly, the management system and the evaluation process provides CBTE and the early childhood educator with a means for constantly refining and renewing his program.

The preceding comparisions of elements of CBTE and CBE demonstrate that both traditional and experimental early childhood education programs practice many of the elements advocated in CBTE. Assumptions underlying competency-based teacher education are similar to many which the early childhood educator subscribes to in dealing with young children. These similar assumptions and practices provide the common ground upon which can be built a competency-based teacher education program for early childhood educators. We shall now consider possible implications of the components of CBTE provided in the first section of this paper and the commonalities just presented.

GENERAL PROGRAM IMPLICATIONS

A recurring theme in education today is that teacher educators need to practice in their own classrooms what they recommend their students practice in their future classrooms. To the degree that this is true, the goals and assumptions of early childhood education need to be adapted for use with adults studying to become teachers. Competency-based teacher education provides a method for making this adaptation possible.

Incorporating the assumptions of ECE and of CBTE will result in many major changes in early childhood teacher preparation programs. To provide direction and a sense of security for students and teachers, the competencies and objectives of such teacher preparation programs will be publicly stated from the beginning. The competencies will cover all areas of education including knowledge, human relations and teacher performance. The student will know at all times what is expected of him as he progresses through the program.

The instructional mode of an early childhood CBTE program will differ considerably from the traditional program. If young children learn by doing then it can be assumed that preservice teachers may also learn more effectively by doing. Teacher preparation programs must, therefore, be reality centered providing students an opportunity to work with young children throughout the entire program rather than for a few weeks during the student teacher experience. The students will be able to continually apply and test out with young children what they are learning in other aspects of the program. The student will not spend as much time in class listening to lectures. He may be working in a learning center discovering how to use various materials with young children or how to develop his own materials. He may be working in small groups discussing problems encountered in his experiences with children or in practicing a learning activity he will later try with children. The student will become an active learner rather than a passive receiver of knowledge similar to the way that young children are encouraged to become active learners. Instruction will be self-paced; students will be able to complete some aspects of the program in a short time while they may take as long as they need for other aspects. The goal is to attain competency and not necessarily to complete a program within a specified length of time. Instruction will also be diagnostic in that the student will not need to spend time on things he can already do or already knows; his time will be devoted to attaining the competencies he is lacking.

An instructional program as broadly described above is of necessity a personalized program. When the student

becomes an active learner he is totally engaged in the program and his college teachers should then become involved with him as an individual. Although there will be a common base of competencies to be attained, each student may pursue his accomplishment in a different manner. Students may choose from a variety of learning activities the one which best suits their individual learning styles. His program will also be designed in accordance with his individual abilities and needs in meeting the stated competencies.

Assessment is a continuous process based on observations of performance of specified competencies. Assessment is utilized to guide the student toward the achievement of the competencies as well as to evaluate the effectiveness of the instructional program.

A systems approach to teacher education is important because it allows the educator to look at the total program and its effect on the student. It is a process which provides for evaluation of all the components of a program as a total system rather than a series of unrelated learning activities. A systems approach involving work with the total educational system will include team teaching possibilities and the use of paraprofessionals, specialists and various cooperating agencies such as child welfare and mental health groups.

PERSONNEL IMPLICATIONS

The personnel needed to carry out a teacher education program under CBTE conditions cannot operate in traditional faculty roles. Traditional is defined as meeting classes for a fixed number of hours a week, utilizing methods such as lecture or lecture discussion, and other typical procedures. Also included in the definition is usual individual faculty autonomy involving program decisions.

In a competency-based program there are varying roles that faculty play. The instructional role calls for the following:

1. Faculty must be willing to establish supportive relationships with students. This relationship enables the development of confidence in students which enhances their self concept. Students should enjoy instructional situations where they feel they can ask for and receive assistance that will allow them to move forward in their studies and successfully in their personal life. This type of relationship can come about only as students perceive faculty members as being accepting and understanding of individuals.

2. Faculty must view instruction as structuring learning activities for students and then accepting responsibility for guiding students in the learning environment provided. The idea is to enable students to be active in the learning process instead of passive. Evidence in studies of learning at all ages indicates that the learner who sits and listens is not as likely to retain and apply what he is expected to learn as the individual who is actively involved.

3. In a competency-based effort, faculty members must be willing to be assessed by their peers, students, and themselves. Assessment for purposes of improvement is part of the systemic approach. The faculty member cannot take the position that what he does with his students is his personal affair. When outcomes are specified, he becomes responsible for the attainment of those outcomes. A faculty member must be willing to accept assessment and act upon it.

4. Since the achievement of specified outcomes really is the responsibility of the total faculty, the faculty member must be willing to work as a part of a team. His autonomy becomes that jointly agreed upon by the team. Team effort is paramount instead of a number of individual efforts. Planning is central to the process. Governance of the process becomes a central team issue.

Other faculty roles involve management, materials development, and research and evaluation. These roles require special skills. In a systematic approach, role specialization is a natural and an efficient use of personnel. Space limitations preclude the presentation of all implications for personnel associated with CBTE programs. Changes will be apparent and the typical faculty role of the past is not a continuing condition.

We have maintained throughout the development of this paper that CBTE and ECE share certain theoretical concepts. In the next section we intend to call attention to on-going ECE programs which will provide empirical verification for the position taken.

CBTE IMPLICATIONS OF EARLY CHILDHOOD EDUCATION PROGRAMS

It is, of course, impossible in these pages to provide a complete review of all early childhood education programs which have CBTE implications. However, even a cursory review of the situation reveals important information beyond that discussed above.

The Child Development Associate Consortium, Inc., located in Washington, D.C. is developing a project designed to upgrade the quality of child care and early education. As a part of this total upgrading process, experts in the fields of child development and early childhood education, in cooperation with the United States Office of Education, have developed a preliminary set of competencies which describe the person considered "qualified" to work with young children. The Child Development Associate Project considers these competencies important to the training of a Child Development Associate, hence, important and reasonable requisites for CDA Projects. The competencies involve knowledge and skills in maintaining a safe and healthy learning environment, advanced physical and intellectual competence, the building of positive self-concepts and individual strengths, the organizing and sustaining of the positive functioning of children and adults in a group in a learning environment, optimal coordination of home and center child rearing practices and expectations and carrying out supplementary responsibilities related to children's programs.[22] The competency statements under the above headings provide a minimal, first listing of competencies to be considered in a comprehensive developmental program for preschool children.

Various programs sponsored through the Education Professions Development Act have utilized elements of

CBTE. The most notable of these is the Evaluation Training Institute in Early Childhood Education located at the University of Utah. The design of this program emphasizes criterion-based performance and objective course evaluation. The program plan specifies that participants use performance projectives in their procedures for evaluation of their success with the project program. Six major training products were developed in the program and three of these (performance systems development technique, establishing a behavior observation system, and classroom monitoring systems) have definite relationships to current CBTE efforts.[23]

The Tucson Early Education Model (TEEM) has been mentioned above. The content and procedures of this EPDA program are based on the definition and specification of the skills and attitudes necessary to function in our technical and changing society, the behavioral characteristics which children bring to the educational situation, and the nature of the learning process. The project has two major components, instruction and psychological services. Psychological services focus on learning and adjustment problems and problem identification using behavioral terms and recording procedures to measure the incidence of problem behavior. The TEEM project is obviously not CBTE oriented, but it utilizes educational procedures familiar in CBTE operations.[24]

The University of Kansas EPDA Project offers a graduate program to train classroom behavior analysts for early childhood educational personnel. This program provides training in behavior modification and behavior modification analysis to help classroom teachers, staff trainers, and elementary-level program coordinators to develop skills in modifying the behavior of children.[25] The Southeastern Regional Early Childhood Education Program for teachers and teacher educators operated through Tuskegee Institute also involves the use of behavior modification techniques in educational work involving human relations education, language arts and creative arts.[26] This project has also aided in the assessment of the previously mentioned CDA competencies.

Other projects having CBTE aspects are easily found. The graduate program to prepare leaders in early childhood education operated through Virginia State College has stressed a team approach to instruction and the use of an early childhood center as a practicum site for all types of instructional activities.[27] The child care associate program at Genessee Community College has developed performance-based operations in its training activities.[28] The early childhood education project of Atlanta University places exceptional stress on developing teacher competency in stimulating young children's language and mental development as well as arranging learning programs that foster intellectual development in young children. Teachers are trained to develop their ability to see a particular child in terms of his relative mastery of specific tasks and to move him, by steps of his own determination, toward mastery.[29] The Early Childhood Tri-state Teacher Training Project has indicated considerable interest in CBTE as a future topic of discussion and possible implementation in some of its early childhood program efforts. This project is presently concerned with defining teacher skills and competencies and has also studied the use of criterion-referenced tests for children in reading.[30] Finally, it is interesting to note that the EPDA kindergarten project in the Louisville Public School System overwhelmingly chose the behavior analysis model of the University of Kansas and the DARCEE model of Peabody College as the principal models to use in their early childhood classrooms.[31] Both of these models have CBTE connotations.

Activities and program developments involving CBTE program components are evident in the current products of educational R and D Centers and regional laboratories contracting to the National Institute of Education.

The UCLA Center for the Study of Evaluation and the UCLA Early Childhood Research Center have developed preschool/kindergarten objective charts to provide a comprehensive and exhaustive hierachy of goals and objectives for preschool and kindergarten programs for children between 30 and 72 months of age. The charts are comprehensive and acquaint individuals with a range of objectives that might be adopted in early childhood education programs. They can be viewed as a "shopping list" of possible early childhood goals and objectives.[32] Needless to say, users will need to adapt such objectives to their own needs as well as formulate others for themselves.

Cemrel, Inc., has produced a teacher training program entitled, "Classroom and Instructional Management" which focuses on exchange teaching techniques, a variation of behavior modification. The program consists of eleven units aimed at elementary teachers to accelerate functional classroom behavior and academic skills.[33]

The Bilingual Early Childhood Program developed by the Southwest Educational Development Laboratory is available for three- and four-year-olds. The program is divided into units dealing with such topics as food, clothing, animals, and body awareness. Behavioral objectives which explicitly state the desired goals in terms of what the child should be able to do are available for each lesson. All objectives are followed by suggested activities.[34]

The Wisconsin Research and Development Center for Cognitive Learning has developed a pre-reading skills program for children four-and-a-half to six-years-old. This program is designed around the Center's system of individually guided education and offers teachers mechanisms for determining which skills each child lacks with the means to fill in skill gaps. The program stresses the development of competence in visual and auditory skills necessary for learning to read.[35]

The Far West Laboratory of Educational Research and Development has created, field-tested and arranged for distribution an early childhood information unit. This multi-media package contains an overview of trends in early childhood education with summaries of eight programs that have been approved and used in Head Start and Follow-Through projects. These eight programs are: the Bank Street Model, the Behavior Analysis Model, the Cognitive Curriculum, the DARCEE Program, the Open Education Model, the Engelmann-Becker Model, the Responsive Pro-

gram, and the Tucson Early Education Model.[36] A number of the above major programs involve procedures associated with CBTE developments. For example, DARCEE utilizes behavioral objectives and provides a sequence approach to learning. Obviously, research and development in early childhood education is definitely involved with CBTE concepts.

AN EARLY CHILDHOOD CBTE MODEL

As of the present date, we know of no competency-based teacher education program which has been developed exclusively for the training of early childhood teachers. However, the development of a competency-based teacher education program known as the Ohio (Toledo) Model[37] has provided a serious, all inclusive attempt to wrestle with the problem of educational change. The Ohio Model design was completed in October, 1968 and this design effort was followed by a feasibility study whose results were available one year later. The Ohio Model planners attempted to provide competency-based teacher education designs for all subsystems of the larger total instructional system called elementary education. They called these subsystems target populations. The target populations were preservice students preparing to teach in preschools and kindergartens, preservice teachers preparing to teach in elementary schools, inservice teachers, administrative personnel in public schools, college and university personnel associated with teacher education programs, and supportive personnel such as teacher aides and other types of paraprofessionals. The Ohio Model actually created instructional programs for training or re-training all of these target populations. The instructional program for the target population of major concern to this report was that for preschool and kindergarten teachers.

The Ohio Model builders approached their task logically and psychologically. Logically they proceeded from the general to the particular—from the goals of education prepared by a national, blue-ribbon study group, to the particular behavioral prescriptions for students in each phase of the teacher education program.

Psychologically they advocated the systems approach to the new program. The teacher education system was related as a subsystem to the larger social system by five sources of influence called contexts. These were: Instructional Organization, Educational Technology, Teaching-Learning Process, Societal Factors, and Research.

The basic process for the project required an analysis of the general goals from the perspective of each context and target population. These contexts, in the opinion of the Ohio Model builders, represented the most important sources of change in teacher education today. Each context was broken down into major subject areas which were further divided into topics. Behavioral objectives were then prepared for each of the six target populations utilizing each of the topics within each of the five contexts. These behavioral objectives were then armed with the details necessary for their implementation by specifying the procedures, materials and evaluation processes to be used to achieve the objective or objectives. The results of this effort, first called "Educational Specifications," were later appropriately grouped as instructional modules.

The Ohio teacher education model provides a competency-based teacher education design for the preparation of early childhood teachers. This design contained 531 specifications (later called modules) with more than 1500 behavioral objectives. In the feasibility process four option programs were developed for these specifications with three programs being slightly less comprehensive than the optimal program of 531 specifications. The fourth option of this program contains 340 specifications, or a reduction of 36 percent of the specifications in the Option one, ideal program.

The specifications dealt with a variety of subjects within each context. The model builders stressed a demonstration, through classroom techniques and procedures, of the ability to work successfully with three-, four-and five-year-old children, involvement and communication with parents and the community, and the ability to exhibit the personality characteristics which facilitate interpersonal relationships with children and parents.

The educational specifications in the model consider a series of subjects and topics for each context area. Those in the context of "Instructional Organization" received the greatest attention because this context area included the subject area of "Necessary Training for Instruction" which encompassed most of the educational specialization necessary to prepare preschool teachers. The specifications called for a thorough exploration of the differences, advantages and disadvantages of self-contained and multiunit schools and advocated a consideration of team teaching at the early childhood level. The design called for learning about instructional decision making, how to diagnose pupil characteristics, the involvement of research development and innovation in the classroom and a close and continuing involvement of the laboratory (early childhood classrooms) and the theoretical instructional base (college and university) in the total educational process.

Individualized instruction and the patterns of individual learning and teaching which have been demonstrated in British primary schools were to be examined for the promise that they held for American classrooms. There was a concern with "learning by discovery" and the view taken that preschool and kindergarten education requires an earlier consideration than once thought possible of mathematics, science, social studies, and language arts. The early childhood teacher was expected to have training in these areas as well as art, music, and health and physical education.

The context of educational technology in the model design emphasized a thorough consideration of media and mediated instruction, the sources of information on the subject, and various types of teaching materials. The use of micro-teaching was prescribed for self-analysis and skill development.

The specifications in the context called "Contemporary Learning-Teaching Process" emphasized a broad understanding of this area which involved both developmental and behaviorist psychology. There was a stress on the

cognitive and affective domains, social learning and basic behavioral operations. The idea was to obtain the best of "both worlds" in the learning-teaching process and to prepare early childhood teachers accordingly.

The context of "Societal Factors" called for a change from the usual teacher education course work in the history and philosophy of education to a thorough study of the factors in society which have present and important implications for preschool teachers in their work with young children. The specifications here called for an attempt to inculcate students with a degree of cultural relativism—a better understanding of cultural values and differences and what can be done educationally, from a more enlightened viewpoint. The design required individual efforts from teacher trainees to be more objective as they viewed socio-cultural situations and to be able to divest themselves of their own values to better understand and work with others utilizing other value systems. Wide experiences in the field were prescribed throughout the undergraduate program. This instructional effort was not only concerned with the education of children but also of parents and the establishment of effective parent-teacher relationships.

The final context, "Research," emphasized instructional efforts concerning teacher behaviors and a better understanding of teacher characteristics. It was assumed that preschool and kindergarten teachers should be more adept at assessing and evaluating their verbal and non-verbal behavior through the use of interaction analysis, and videotaping feedback using other techniques. These activities demonstrate the belief of the program designers that it is now necessary to study teaching behavior and style.

The contexts which received the greatest emphasis were "Instructional Organization," "Contemporary Learning-Teaching Process," and "Societal Factors." The types of activities suggested in the specifications were direct experiences, discussions, individual study, observation, skill development, and cooperative activities of a wide variety. The design called for a wide use of instructional materials with stress on audiovisual resources and various types of printed materials. Evaluation techniques included examinations, reports, conferences, observations, and special assignments and exercises.

The Ohio model CBTE design for the preparation of early childhood teachers provides a broad but selective list of behavioral objectives plus the activities and evaluation procedures to accomplish these objectives. Flexibility is stressed in the program so that any person using it would have ample opportunity to depart from the use of sterile and traditional methods and materials to the use of new and varied instructional efforts to develop thinking and creativity in children. The model is exactly what it claims to be, a design and not a finished product. It can be made available to users interested in it but they would have to take the "bones" of the design and "flesh them out" to achieve model implementation. Nevertheless, the design does exist and can be made operable, which was indicated by the simulation processes used in the subsequent feasibility study.

SUMMARY

We have attempted in this paper to provide the reader with a brief statement concerning the components of competency-based teacher education, their relationship to early childhood education and the preparation of early childhood teachers, the implications of all this for early childhood teacher education programs and personnel, and finally the indication of an existing early childhood CBTE program design. This review is necessarily superficial. However, the information presented has attempted to go beyond merely philosophical arguments for CBTE and has suggested a change process in teacher education for early childhood programs and personnel. We recognize that new ways to educate teachers must continue to be sought to ensure continued change in both the teacher education process and its products. We point out that CBTE can serve ECE well and that many components are already in operation in ECE training programs. We commend to you its consideration.

FOOTNOTE REFERENCES

1. National Council for Accreditation of Teacher Education. *Materials for Institutional Accreditation.* Washington, D.C.: The Council, 1970, pp. 3-6.

2. Schalock, H. Del. "BEPD, NCERD, and Teacher Education that Makes a Demonstrable Difference," in Benjamin Rosner, *The Power of Competency-Based Teacher Education: A Report.* Boston, Mass.: Allyn and Bacon, Inc., 1972, pp. 114-122.

3. Johnson, Charles E. "Some Basic Assumptions Underlying Competency-Based Teacher Education Programs," University of Georgia, 1971 (mimeographed).

4. Hess, Robert and Doreen Croft, *Teachers of Young Children.* Boston: Houghton Mifflin Co., 1972.

5. Parker, Ronald K. (ed.), *The Preschool in Action: Exploring Early Childhood Programs,* Boston: Allyn and Bacon, Inc., 1972.

6. Weber, Evelyn, *The Kindergarten: its Encounter With Educational Thought in America.* New York: Teacher's College Press, 1969.

7. Evans, Ellis, *Contemporary Influences in Early Childhood Education.* New York: Holt, Rinehart and Winston, 1971.

8. Hughes, Marie and others, *The Tucson Early Education Model,* Tucson, Arizona, University of Arizona, 1968.

9. Nimnicht, Glen, Oralie McAfee, and John Meier, *The New Nursery School.* New York: General Learning Corporation, 1969.

10. Klaus, Rupert and Susan W. Gray, *The Early Training Project,* Monographs of the Society for Research in Child Development, Vol. 33, No. 4, Serial 120, 1968.

11. Bereiter, Carl and Siegfried Engelmann, *Teaching Disadvantaged Children in the Preschool,* New York: Prentice-Hall, 1966.

12. Parker, Ronald K. (ed.), *op. cit.* p. 472.

13. Reed, Katherine H., *The Nursery School: A Human Relations Laboratory.* Philadelphia: W. E. Saunders Co., 1966, p. 62.

14. Nimnicht, Glen, Oralie McAfee, and John Meier, *op. cit.,* p. 80.

15. Gilkeson, Elizabeth, *Bank Street Approach to Follow Through.* New York: Bank Street College of Education, 1969.

16. Armington, David, "A Plan for Continuing Growth" in *Descriptions of Follow-Through Programs,* Washington, D.C.: U.S. Dept. of Health, Education and Welfare, 1968, C-1-12.

17. Parker, Ronald K. (ed.), *op. cit.,* p. 469.

18. "Guidelines for the Analysis and Description of Early Childhood Education Programs," *Educational Leadership.* Vol. 28, No. 8, May, 1971. pp. 812-820.

19. Hess, Robert and Doreen Croft, *op. cit.* p. 512.

20. Kamii, Constance and David L. Elliott, "Evaluation of Evaluations," *Educational Leadership*, Vol. 28, No. 8, May, 1971. pp. 827-831.

21. DARCEE, Demonstration and Research Center for Early Education, George Peabody College, Nashville, Tenn.

22. *Memorandum on Competencies of the CDA*. Washington, D.C.: Child Development Associate Consortium, Inc., November, 1972. 6 pp.

23. Della-Piana, Gabriel, *The Utah Evaluation Training Project in Early Childhood Education*. Salt Lake City: University of Utah, March, 1973. (Mimeographed)

24. Arizona Center for Educational Research and Development. *The Tucson Early Education Model*, Tuscon, Arizona: University of Arizona, Nov., 1972. (Mimeographed)

25. The University of Kansas TTT Early Childhood Project, Lawrence, Kansas.

26. The Southeastern Regional Early Childhood Education Program for Teachers and Teacher Educators. Tuskegee Institute, Tuskegee, Alabama.

27. A Graduate Program to Prepare Leaders in Early Childhood Education, Virginia State College, Petersburg, Virginia.

28. Child Care Associate Program, Genesee Community College, Flint, Michigan.

29. Early Childhood Education Project, School of Education, Atlanta University, Atlanta, Georgia.

30. Early Childhood Tri-State Teacher Training Project, *The AlaFlaGa Word*. Tallahassee, Florida: Florida State Dept. of Education, Vol. 3, No. 5, Feb., 1973, 8 pp.

31. Early Childhood Project, Louisville Public School System, Louisville, Kentucky.

32. Council for Educational Development and Research, Inc. E. Joseph Schneider, (ed.) *D and R Report*, Vol. 2 No. 2, Feb., 1973, p. 3.

33. *Ibid.* p. 4.

34. *Ibid.* p. 5,6.

35. *Ibid.* p. 6.

36. *Ibid.* p. 10.

37. Dickson, George E. et al., *Educational Specifications for a Comprehensive Elementary Teacher Education Program*. Volume I, The Basic Report. Volume II, The Specifications. Washington, D.C.: USOE Bureau of Research, U.S. Government Printing Office, OE-58023, 1968.

SUGGESTED READINGS

CBTE

Anderson, D. W., Cooper, J. M., DeVault, M. V., Dickson, G. E., Johnson, C. E. and Weber, W., *Competency-Based Teacher Education*. Berkeley, California: McCutchan Publishing Corporation, 1973.

Elam, Stanley, *Performance-Based Teacher Education: What is the State of the Art?* Washington, D.C.: American Association of Colleges for Teacher Education, February, 1972. PBTE Series No. 1.

Houston, W. Robert and Robert B. Howsam, *Competency-Based Teacher Education*. Palo Alto, California: Science Research Associates, Inc., 1972.

Schmieder, Allen A. *Competency-Based Education: The State of the Scene*. Washington, D.C.: American Association of Colleges for Teacher Education, February, 1973, PBTE Series No. 9.

Weber, Wilford A., Cooper, James M., Houston, W. Robert, *A Guide to Contemporary-Based Teacher Education*, Westfield, Texas: Competency-Based Instructional Systems, 1973.

ECE

Beller, K. Research on Organized Programs of Early Education, in R. Travers (ed.) Handbook of Research on Teaching, Chicago: Rand-McNally, 1972.

Gordon, Ira (ed.), *Early Childhood Education*, 71st Yearbook of National Society for the Study of Education, Part I, Chicago: University of Chicago Press, 1972.

Haberman, M. and B. Persky, (eds.) *Preliminary Report of the Ad Hoc Joint Committee on the Preparation of Nursery and Kindergarten Teachers*. Washington, D.C.: National Commission on Teacher Education and Professional Standards, National Education Association, 1969.

Howard, Eugene, *Characteristics of Early Childhood Teacher Education, An Analysis of Ten Exemplary Programs*. Bulletin of Association for Childhood Education International, 1968.

Katz, Lillian G. "Teaching in Preschools: Roles and Goals," *Children*, Vol. 17 (March-April 1970) p. 42-46.

Klein, Jenny and C. Ray Williams, "The Development of the Child Development Associate Program," *Young Children*, February, 1973.

Parker, R. K. and S. Ambron, *Child Development and Day Care Handbook: Preschool: Vols. 1 and 2*. New York: Graduate Center, The City Univ. of New York, 1972.

Spodek, Bernard, "Constructing a Model for a Teacher Education Program in Early Childhood," *Contemporary Education*, Vol. 40 (1969) p. 145-149.